

Lesson Plan   
Development Checklist

# This checklist and the accompanying document describing each component were adapted from LEARN NC’s *The parts of a lesson plan.* Each component below is required unless otherwise indicated.

# □ Title

# □ Brief Description

# □ Key Search Words

# □ Learning Outcomes

# □ Curriculum Alignment

# 

# For each activity in the lesson plan include the following:

# □ Classroom Time Required

# □ Materials & Technology

# □ Student Preparation for Activity

*This field is recommended but not required.*

# □ Procedure

# □ Differentiation

# □ Evaluation/Assessment (Formative)

# □ Evaluation (Summative)

*Required if multiple activities were conducted.*

# □ Required resources

*At least one NASA resource is required*.

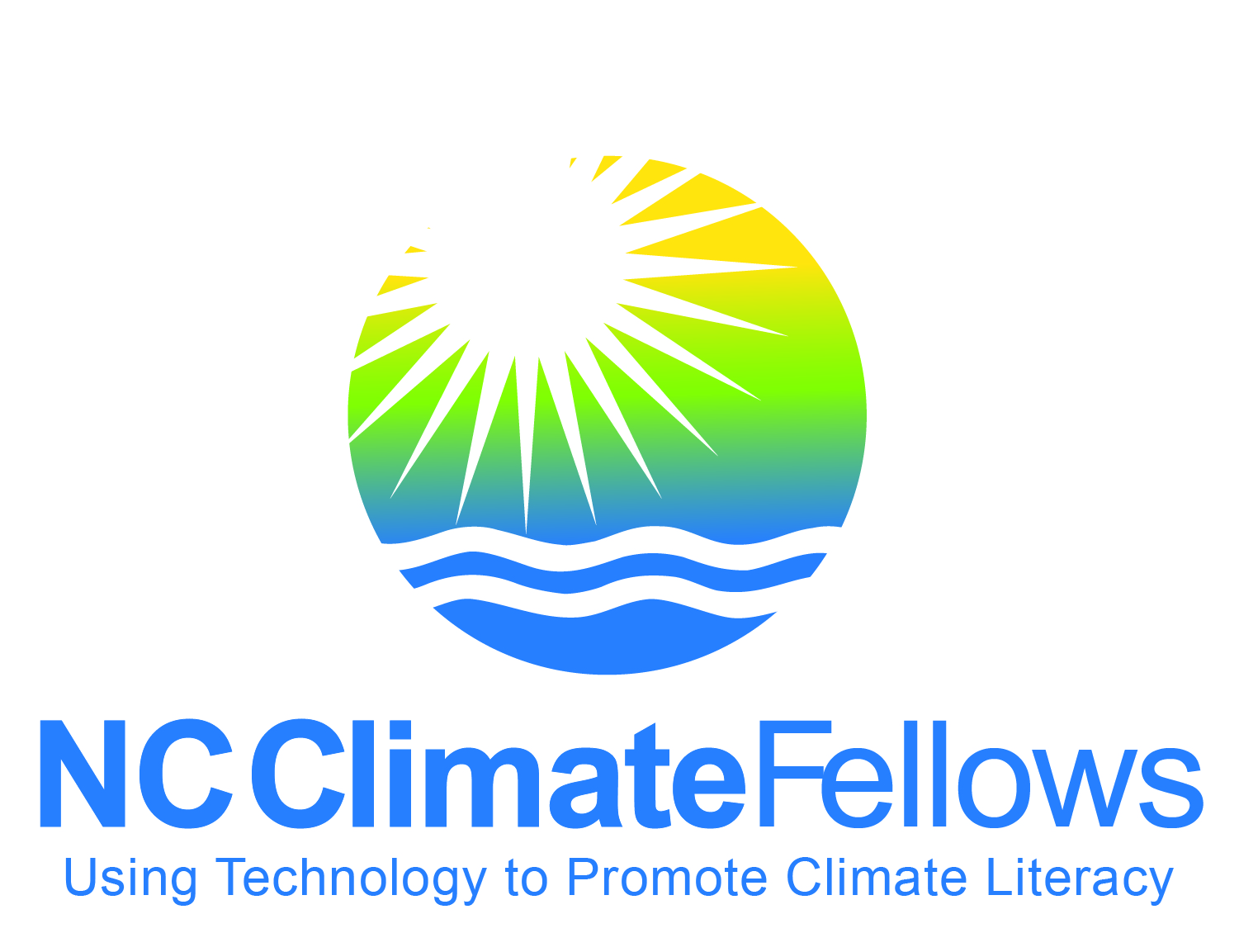
# □ Supplemental resources

*This field is optional.*

# □ Author comments

*This field is optional.*

# □ Author Info



Lesson Plan Template

Successful completion of the NC CLIMATE Fellowship Program will entail the development and evaluation of a lesson plan by each teacher that utilizes one or more NASA resources to promote student learning about climate change science and impacts. You may work in pairs to develop, pilot and evaluate a lesson. Interdisciplinary lessons addressing either different science disciplines or science and social studies concepts are encouraged. Each lesson must be piloted with at least one class, and you must conduct a formative assessment in order to evaluate the success of the lesson and guide improvements to the lesson prior to submission to program staff.

This lesson plan template was adapted from LEARN NC’s *The Parts of a Lesson Plan* by the NC CLIMATE Fellows Program. By following these guidelines, you will fulfill the lesson development requirement for the NC CLIMATE Fellows Program and make your lesson plan ready for distribution to other teachers. High quality lessons will be submitted to both NASA and LEARN NC for possible inclusion on their websites.

Lessons must be submitted electronically as a MS Word Document to Dana Haine at [dhaine@unc.edu](mailto:dhaine@unc.edu) by June 15, 2013.

***Each component below is required unless otherwise indicated.***

# Title

The title of your lesson plan should be concise, clear, and descriptive. It should invite teachers to take a closer look at the lesson. Remember that teachers may see only the title and a short description of your lesson in a page of search results, so they need to know what to expect if they click on it!

# Brief description

Briefly describe the lesson, emphasizing relevant instructional techniques, what students are to learn and any activities or assessments that you think are particularly noteworthy.

**Key Search Words**

List relevant search words: subject, grade, topic, critical vocabulary, pedagogical strategy (*e.g.,* 5E instructional model).

# Learning outcomes

Learning outcomes are what students are expected to know after completing the lesson.

* Learning outcomes should be closely related to the curriculum but should not simply repeat goals and objectives of the NC Essential Standards. Learning outcomes may be broader, address particular aspects of curriculum objectives, or teach the curriculum in a special context.
* Each learning outcome should be measureable and clearly reflected in the activities and assessed at the conclusion of the lesson (e.g., students should be able to define, describe, explain, etc.)

# Curriculum alignment

Curriculum alignment is the relationship of the lesson to the 2010 North Carolina Essential Standards. List specific goals and objectives that this plan addresses (e.g., EEn.2.6.4).

* Your lesson plan must address at least one objective of a current curriculum, and it is a rare lesson plan that addresses more than three objectives at once.
* If the lesson is appropriate to multiple grade levels or courses, list goals and objectives for each grade level or course.
* **Also indicate how your lesson specifically aligns with the Climate Literacy Framework**. For example your lesson may align with Principle 1, 2, and 3.
* Remember that all objectives you list here must be addressed in the learning outcomes, activities, and assessment!

**Lesson Construction:**

*Your lesson can consist of one or more student activities and students must interact with at least one NASA resource during this lesson. You may also choose to write your lesson according to the* [*5E instructional model*](http://www.nasa.gov/audience/foreducators/nasaeclips/5eteachingmodels/index.html)***(Engage, Explore, Explain, Extend/Elaborate*** *and* ***Evaluate); i****f not all 5E components are used, designate the place on the 5E cycle where your lesson(s) best fits.* For more information about the 5E instructional model visit: <http://bscs.org/bscs-5e-instructional-model>

**For each activity or 5E** stage, include the following components:

# Classroom time required

Classroom time required is the amount of time a teacher will need to schedule for implementation of this lesson plan. If your lesson includes multiple activities, you will want to specify the amount of time (minutes, hours, class periods, or weeks) each activity is projected to take.

* Consider different scheduling constraints. If you’ve designed your lesson for a block schedule, mention that (“one block period”). You might also offer a suggestion in the activities or supplemental information for breaking the plan into two traditional periods.
* If the plan is intended to last for several days, explain the time requirements as specifically as possible (for example, “two hours over a week” or “three consecutive class periods”).

# Materials & Technology

Materials needed include resources used by both teacher and students, including books and websites, handouts, paper and pencils, art supplies, and so on.

* If a specific book is needed or recommended, provide a full citation (author, title, publisher) so that teachers can easily locate it.
* **If you use handouts or specific materials for presentation, please make them available as separate files. Also provide an answer key where appropriate.**
* If the lesson requires that the classroom be arranged in a particular way, mention that here.

Also include technology resources used by both teacher and students, including computers and related resources (internet connections, printers, and specific software such as a word processing application or PowerPoint), scanners and digital cameras, projectors, VCR or DVD player, and so on.

* Be as specific as possible when listing software and hardware requirements.
* Specify how many of each resource is needed (one computer per student? per group of students?).
* Provide alternatives if possible. For example, if you teach this plan with one computer per student, try to offer a way to teach the plan with students in groups (in activities or supplemental information) and note here so that the activity can be adapted.

**Student Preparation for Activity**

*This field is* ***recommended*** *but not required.*

Describe any “prerequisites” for this activity. Are there concepts or topics that students should know/review prior to starting the activity? Are any pre-activities necessary that will help stimulate students’ background knowledge of the topic, refresh their memory of previous lessons related to this one, or teach critical vocabulary?

# Procedure

Explain *step by step* what the teacher and students will do during the lesson. They should be as specific as possible.

Consider the following as you write this section:

* If the teacher is to explain something, note key points she/he should cover.
* Similarly, if there is to be a discussion, note the goals for the discussion and provide question prompts — what conclusions might or should students reach?
* If a teacher doesn’t have certain materials or is pressed for time, are there steps that can be left out?
* If there are additional resources or background information you think would benefit beginning teachers, include them in the *Supplemental Resources* section.
* Include ideas for extensions or extra credit.

# Differentiation

Describe how a teacher could adapt this plan to teach special audiences, such as students with learning disabilities, gifted and talented children, or English language learners. If you provide modifications:

* + Explain what audience the modifications are intended for.
  + List specific activities for this audience, and provide or link to any special resources needed.
  + If possible or necessary, explain how the teacher can adapt classroom management strategies to use this plan with multiple audiences at the same time. Provide alternative assessments if applicable.

# Evaluation/Assessment (Formative)

Explain how the teacher will determine whether or to what extent students met the learning outcomes listed at the beginning of the lesson plan that are relevant to the activity/lesson. It should explain the means of assessment as well as the standards by which students are to be assessed.

* Creative assessment techniques are encouraged; this will be more fun for you and the students! Attach a rubric if necessary.
* If you use a specific worksheet, test or quiz, please attach it along with an answer key as separate files.
* If assessment is oral, explain what words, ideas, or cues the teacher can use to evaluate student understanding. Attach a rubric if necessary.

Alternative assessments are means of assessment for special audiences, such as students with learning disabilities or English language learners.

* If you provided modifications above, provide an alternative assessment for each modification or special audience.
* If you did not provide modifications above, explain what audience this alternative assessment is intended for.

# Evaluation/Assessment (Summative)

**For lessons that include more than activity, please provide a summative assessment strategy that would evaluate the entire lesson.** Explain how the teacher will determine whether or to what extent students met the learning outcomes listed at the beginning of the lesson. It should explain the means of assessment as well as the standards by which students are to be assessed.

* Creative assessment techniques are encouraged; this will be more fun for you and the students! Attach a rubric if necessary.
* If you use a specific worksheet, test or quiz, please attach it along with an answer key as separate files.
* If assessment is oral, explain what words, ideas, or cues the teacher can use to evaluate student understanding. Attach a rubric if necessary.

# Required resources

This section lists any resources and/or websites that are necessary for lesson implementation. Include resources teachers can use with students, such as images or animations which students will be directed to use independently. **Students must interact with at least one NASA resource during this lesson.**

**Important!** *An external website should not be required for a teacher to use your plan unless it is a highly stable, institutionally maintained resource.*

For each website, please provide a title, URL, and brief explanation of how it relates to or where it is used in this lesson plan.

**Supplemental resources**

*This field is* ***optional****.*

This section lists any resources and/or websites that are not required for lesson implementation but rather support lesson implementation by providing teachers or students access to background information for lesson preparation, in-class presentations or student research. This section may also direct teachers to resources about instructional strategies or classroom management issues related to this lesson.

# Author comments

*This field is* ***optional****.*

Include anything you think teachers should know or consider that doesn’t fit into the other parts of the lesson:

* An explanation of how you developed the plan, or why you wrote it in a particular way
* Possible extensions or ways to shorten the plan
* Reflections on the experience of teaching this lesson
* Students’ comments or reactions

# Author Info

Please tell us about yourself: Where you teach (school, system, city); grade level and subject(s) taught; number of years teaching; special certifications, degrees, experience, or other qualifications that lend credibility to your lesson plan.